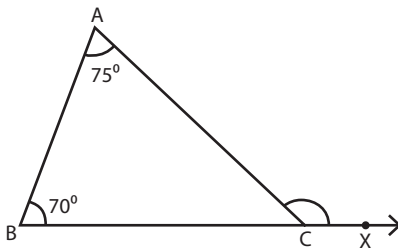


# Triangle-Exterior Angle

The measure of an exterior angle of a triangle is equal to sum of the measures of opposite interior angles.



Exterior angle :  $\angle ACX$

Opposite interior angles :  $\angle A$  and  $\angle B$

Exterior angle = Sum of opposite interior angles

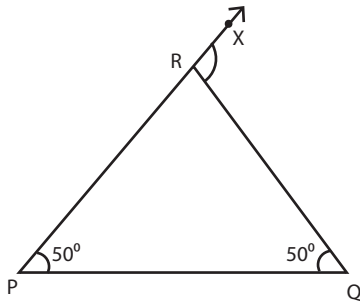
$$\angle ACX = \angle A + \angle B$$

$$\angle ACX = 70^\circ + 75^\circ$$

$$\angle ACX = 145^\circ$$

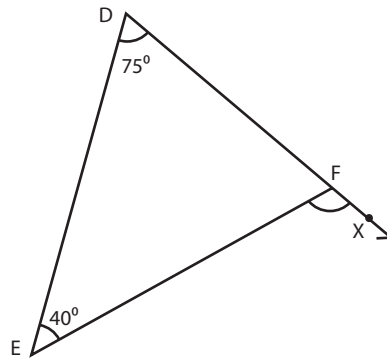
Find the unknown exterior angle for each triangle.

1)



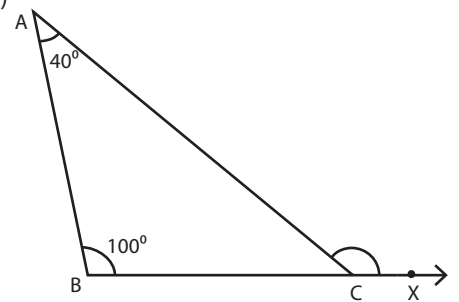
$$\angle QRX = \text{_____}$$

2)



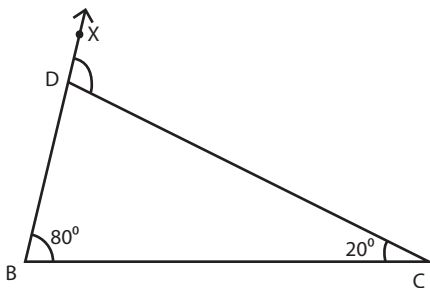
$$\angle EFX = \text{_____}$$

3)



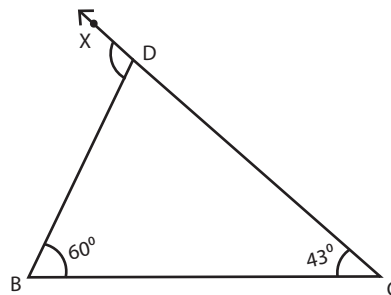
$$\angle ACX = \text{_____}$$

4)



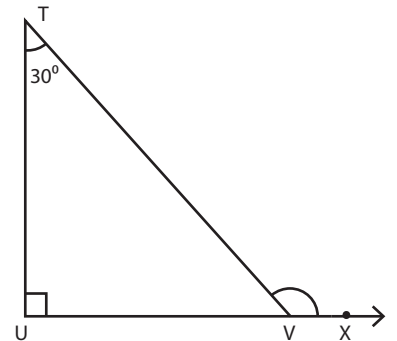
$$\angle CDX = \text{_____}$$

5)



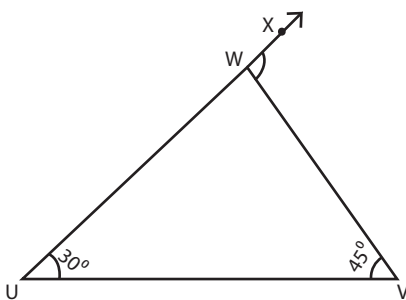
$$\angle BDX = \text{_____}$$

6)



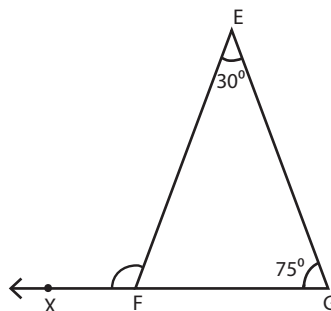
$$\angle TVX = \text{_____}$$

7)



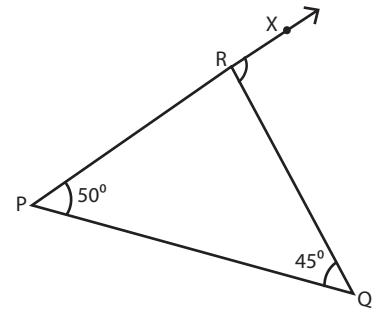
$$\angle VWX = \text{_____}$$

8)



$$\angle EFX = \text{_____}$$

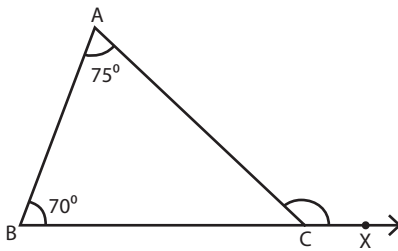
9)



$$\angle QRX = \text{_____}$$

**Answer key**

The measure of an exterior angle of a triangle is equal to sum of the measures of opposite interior angles.



Exterior angle :  $\angle ACX$

Opposite interior angles :  $\angle A$  and  $\angle B$

Exterior angle = Sum of opposite interior angles

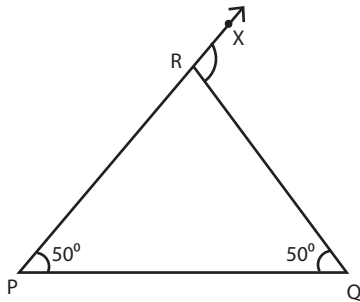
$$\angle ACX = \angle A + \angle B$$

$$\angle ACX = 70^\circ + 75^\circ$$

$$\angle ACX = 145^\circ$$

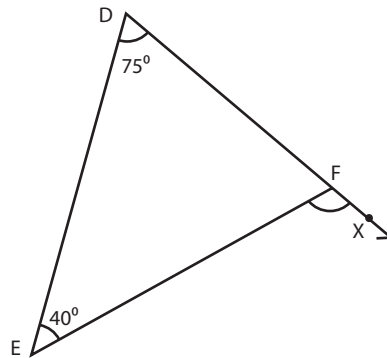
Find the unknown exterior angle for each triangle.

1)



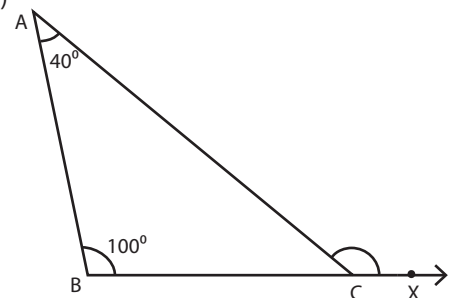
$$\angle QRX = 100^\circ$$

2)



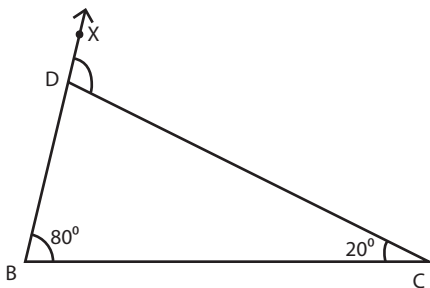
$$\angle EFX = 115^\circ$$

3)



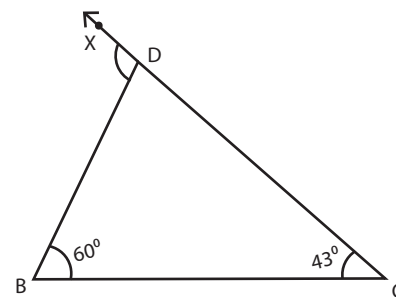
$$\angle ACX = 140^\circ$$

4)



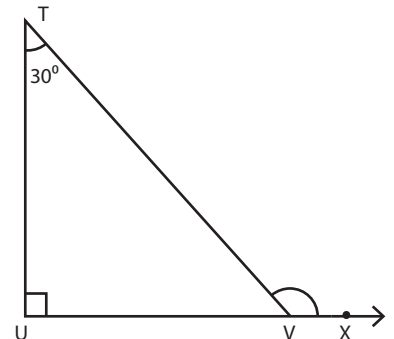
$$\angle CDX = 100^\circ$$

5)



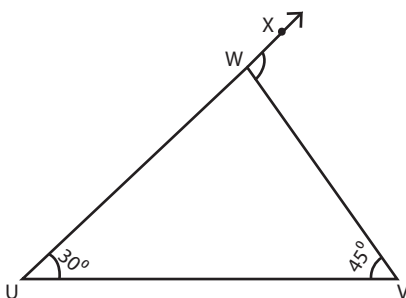
$$\angle BDX = 103^\circ$$

6)



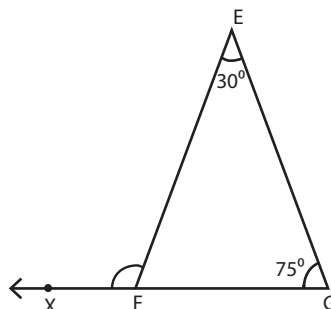
$$\angle TVX = 120^\circ$$

7)



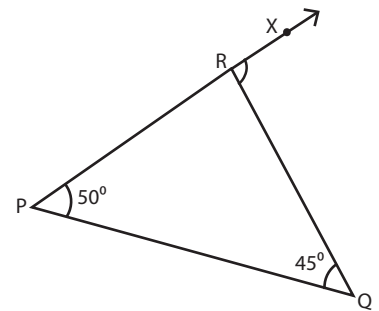
$$\angle VWX = 75^\circ$$

8)



$$\angle EFX = 105^\circ$$

9)



$$\angle QRX = 95^\circ$$